

AMENDMENTS TO THE CLAIMS

The following is a complete listing of revised claims with a status identifier in parenthesis.

LISTING OF CLAIMS

1. (Currently Amended) A method of transporting information in an optical communication network having interconnected network nodes and one or more user nodes coupled to network nodes, the method comprising:

forming a digital container at a first network node, the digital container including a header section and a payload section, wherein the payload section ~~is capable of carrying~~ carries a plurality of separate transmissions, ~~and~~ each transmission ~~may be~~ formatted according to one of many different protocols;

routing the digital container through the communication network based ~~only on a channel identification field destination information~~ contained within the header section of the digital container that identifies the destination of the digital container;

receiving and processing the digital container at a second network node;
and

routing the separate transmissions carried in the payload section of the digital container to one or more user nodes serviced by the second network node without the digital container, wherein the payload section of the digital container includes transmissions for only the one or more user nodes serviced by the second network node.

2. (Previously Presented) The method according to claim 1, further comprising the step of processing the separate transmissions according to the one or more protocols at the one or more user nodes.

3. (Previously Presented) The method according to claim 1, wherein the payload section of the digital container comprises a heterogeneous payload having a plurality of units of traffic selected from the group consisting of an Asynchronous Transfer Mode (ATM) cell, an Internet Protocol (IP) packet, a streaming video bitstream, a real-time video bitstream, voice traffic stream, a Time Division Multiplex (TDM) sample, a SONET frame, a DS- n signal, where n is an integer, and signaling messages according to a prescribed signaling scheme.

4. (Original) The method according to claim 1, wherein the digital container is formed as a signaling-type container for establishing a communications connection between network nodes.

5. (Original) The method according to claim 1, wherein the digital container is formed as a signaling-type container for establishing a communications connection between user nodes.

6. (Original) The method according to claim 1, wherein the step of forming comprises forming a digital container of a fixed size.

7. (Canceled)

8. (Canceled)

9. (Previously Presented) The method according to claim 1, wherein the ~~header section includes~~ channel identification field comprises an optical logical channel identification (OCLI) field for identifying the destination of the digital container.

10. (Previously Presented) The method according to claim 1, wherein the header section further includes a payload control field for indicating whether contents of the payload section of the digital container are dedicated to a single user node.

11. (Previously Presented) The method according to claim 1, wherein the header section further includes a payload control field for indicating whether contents of the payload section of the digital container are intended for two or more user nodes serviced by the same network node.

12. (Previously Presented) The method according to claim 9, wherein the OCLI field comprises a network node destination address and one or more user node destination addresses, wherein the network node destination address corresponds to the second network node and wherein the one or more user node destination addresses correspond to one or more user nodes serviced by the second network node.

13. (Previously Presented) The method according to claim 9, wherein the step of routing the digital container comprises routing the digital container based on the destination identified in the OCLI field.

14. (Currently Amended) A method of transporting information in an optical communication network having interconnected network nodes and one or more user nodes coupled to network nodes, the method comprising:

forming a digital container at a first network node, the digital container including a header section and a payload section, wherein the payload section ~~is capable of carrying~~ carries a plurality of separate transmissions, ~~and each transmission may be~~ formatted according to one of many different protocols; and

addressing the digital container for routing to a second network node such that routing of the digital container through the communication network is based ~~only on destination information~~ a channel identification field contained within the header section of the digital container, wherein ~~and~~ the digital container is not routed to a user node, ~~wherein~~ and the payload section of the digital container includes transmissions for only the one or more user nodes serviced by the second network node.

15. (Currently Amended) A method of transporting information in an optical communication network having interconnected network nodes and one or more user nodes coupled to network nodes, the method comprising:

receiving, at a second network node, a digital container transmitted by a first network node using a channel identification field ~~only destination information~~ corresponding to the digital container, the digital container including a header section and a payload section, wherein the payload section ~~is capable of carrying~~ carries a plurality of separate transmissions, ~~and~~ each transmission ~~may be~~ formatted according to one of many different protocols;

processing the digital container at the second network node; and

routing the separate transmissions carried in the payload section of the digital container to one or more user nodes serviced by the second network node, wherein the digital container is not routed to a user node and the payload section of the digital container includes transmissions for only the one or more user nodes serviced by the second network node.

16. (Currently Amended) A method for transporting signaling information in an optical communication network having interconnected network nodes and one or more user nodes coupled to network nodes, the method comprising:

a) establishing a communications connection between a first and second network node by

1) forming a first digital container at a first network node, the first digital container including signaling information for establishing a route between the first and second network nodes,

2) routing the first digital container through the communication network using a channel identification field, and

3) receiving and processing the first digital container at the second network node to thereby establish the communication connection; and

b) establishing a signaling connection between a first and second user node, the first user node being coupled to the first network node and the second user node being coupled to the second network node, by

1) forming a second digital container at a first network node, the second digital container including a header section and a payload section, wherein the payload section comprises one or more signaling messages supplied by the first user node,

2) routing the second digital container through the communication network based ~~only on destination information~~ a channel identification field contained within the header section of the second digital container,

3) receiving and processing the second digital container at the second network node, and

4) routing the one or more signaling messages carried in the payload section of the second digital container to the second user node serviced by the second network node, such that a signaling connection is established between the first and second user nodes and the second digital container is not routed to a user node.

17. (Currently Amended) A system for transporting information in an optical communication network having interconnected network nodes and one or more user nodes coupled to network nodes, the system comprising:

in a first network node,

a processor for forming a digital container including a header section and a payload section, wherein the payload section ~~is capable of carrying~~ carries a plurality of separate transmissions, ~~and~~ each transmission ~~may be~~ formatted according to one of many different protocols, and

a routing element for routing the digital container to a second network node based ~~only on destination information~~ a channel identification field contained within the header section of the digital container; and

in a second network node, a processor for receiving and processing the digital container and routing the separate transmissions carried in the payload section of the digital container to one or more user nodes serviced by the second network node, wherein the payload section of the digital container includes transmissions for only the one or more user nodes serviced by the second network node and the digital container is not routed to a user node.

18. (Currently Amended) In an optical communication network having a plurality of network nodes and one or more user nodes coupled to one or more of the plurality of network nodes, a first network node for transporting information in the communication network comprising:

a processor operable to form a digital container including a header section and a payload section, wherein the payload section ~~is capable of carrying~~ carries a plurality of separate transmissions, ~~and~~ each transmission ~~may be~~ formatted according to one of many different protocols and further operable to address the digital container for routing to a second network node; and

a routing element for routing the digital container to a second network node based ~~only on destination information~~ a channel identification field contained within the header section of the digital container,

wherein the payload section of the digital container includes information for only the one or more user nodes serviced by the second network node and the digital container is not routed to a user node.

19. (Currently Amended) In an optical communication network having a plurality of network nodes and one or more user nodes coupled to one or more of the plurality of network nodes, a destination network node for transporting information in the communication network comprising:

means for receiving a digital container transmitted by a first network node using ~~only destination information~~ a channel identification field corresponding to the digital container, the digital container including a header section and a payload section, wherein the payload section ~~is capable of carrying~~ carries a plurality of separate transmissions, ~~and~~ each transmission ~~may be~~ formatted according to one of many different protocols; and

means for processing the digital container and for routing the separate transmissions carried in the payload section of the digital container to one or more user nodes serviced by the second network node, wherein the payload section of the digital container includes transmission for only the one or more user nodes serviced by the second network node and the digital container is not routed to a user node.